



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,467	08/29/2001	Toru Iizuka	0229-0657P	5043

2292 7590 03/30/2005

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
WYROZEBSKI LEE, KATARZYNA I	
ART UNIT	PAPER NUMBER

1714

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/940,467

Applicant(s)

IIZUKA TORU et al

Examiner

Katarzyna Wyrozebski

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 5-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

After careful reconsiderations of the claims and the prior art applied against present invention, the finality of the office action is withdrawn for following reasons. In the appeal brief and most of the arguments throughout the prosecution of this application, the applicants argued examiner's motivation to combine the references as they were. However, the examiner realized that the prior art of record as utilized against present claims, namely the disclosure of NAKANO and the passage referred to by the examiner did not disclosed monofilament cords, but 3+9 cords. The properties listed therein were not the properties of monofilament cords. In view of the above, although the prior art of NAKANO teaches that the monofilament cords can be used, it does not provide any description of the monofilaments. The search was updated and new prior art is hereby applied.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 1714

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over POQUE (US 5,524,687) in view of BEERS (US 6,120,911).

The prior art of POQUE discloses pneumatic tire construction as follows: a carcass of the tire that extends from bead to bead, which will intrinsically encompass both tire tread area and sidewall. The belt of the tire is disposed radially and comprises a number of superimposed plies. POQUE teaches also that a ply of a tire comprises cords embedded in rubber composition.

The belt of POQUE also extends at an angle equatorial to the plane as viewed in circumferential direction. The ply of POQUE is characterized by comprising umber of individual monofilament cords that are wavy or winding lengthwise. The wavelike or helical configuration of the filaments increases the breaking elongation of the individual filament.

Art Unit: 1714

The cord count is 80-120 filaments per decimeter, wherein 1 dm = 10 cm. Therefore per 5 cm the cord count will be in a range of 40-60 filaments. The prior art of POQUE discloses limitations of wave amplitude also known as pitch being 0.1-2 times of the diameter of the filament, wavelength of 1-40 times the diameter of the filament, wherein the diameter of the filament is in a range of 0.3-0.45 mm (col. 3). Therefore having pitch of $40 \times 0.45 = 18$ and amplitude of $0.45 \times 2 = 0.9$ and $0.45 \times 0.1 = 0.045$ the prior art of POQUE satisfies the claims of the present invention.

The difference between the present invention and the prior art of POQUE are two things. One is the angle of inclination of the belt plies in a pneumatic tire and two, the composition of the topping rubber in which ply is embedded.

With respect to the above argument, the prior art of BEERS also teaches pneumatic radial tire comprising a belt and topping rubber for the cord and ply construction. The tire of BEERS can be a passenger tire or a truck tire (i.e., heavy duty tire).

The plies of BEERS have angle of 17-27 degrees, which is within applicants claimed range. For parallel cords this angle range is the same as with respect to the tire circumferential direction.

The topping rubber of BEERS comprises following composition: 100 pbw of synthetic or natural rubber, 45-70 parts of carbon black and curatives comprising sulfur. The composition of BEERS also comprises adhesion promoters. The adhesion promoters include methylene donor and methylene acceptors. Methylene acceptors include phenolic compounds such as phenol and resorcinol and its amount is in a range of 2.0-5.0 pbw. Methylene donors include melamines as

Art Unit: 1714

well as their condensation products. The amount of the methylene donors is also 2.0-5.0 pbw, since their ratio as reported by BEERS to methylene acceptors is 1:1.

The prior art of POQUE discloses tire construction, which is generic with respect to the topping rubber utilized in pneumatic tire plies. At the same time, BEERS discloses composition, that is utilized for that particular purpose and it is shown to work well with metallic cords.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize the composition of BEERS in the tire of POQUE and thereby obtain the claimed invention. The tire of POQUE teaches that its plies required rubber composition and metallic cords and it is expected that the composition of BEERS, which is designed for that particular purpose will result in making functional tire ply of POQUE.

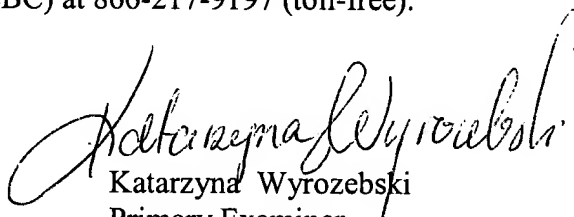
Cite: US Patent 6,637,487 to MIYAZAKI although comprises teachings of the present invention does not qualify as a prior art for date purposes. US Patent 6,520,232 to Miyazaki, although comprises all the properties of the monofilament it does not address the issue of topping rubber. Since this patent is commonly owned by Sumimoto Rubber Industries it can not be applied as a 103 reference. The applicants are requested to confirm that this patent is commonly owned or assigned. Failure to do so will result in 2nd non-final office action and application of this disclosure against present claims. US PGPub 2003/0047265 is also not considered as a prior art against instant invention for date purposes. US PGPub 2002/0011296 does not address the issue of rubber composition and therefore is not applicable against present claims.

Art Unit: 1714

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski whose telephone number is (571) 272-1127. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Katarzyna Wyrozebski
Primary Examiner
Art Unit 1714

March 7, 2005